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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,339	03/12/2004	Masahiro Kakehi	250307US0DIV	6720
22850	7590	06/22/2009	EXAMINER	
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				SAIDHA, TEKCHAND
ART UNIT		PAPER NUMBER		
1652				
NOTIFICATION DATE			DELIVERY MODE	
06/22/2009			ELECTRONIC	

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1                   RECORD OF ORAL HEARING

2                   UNITED STATES PATENT AND TRADEMARK OFFICE

3  
4                   BEFORE THE BOARD OF PATENT APPEALS  
5                   AND INTERFERENCES

6  
7                   *Ex parte* MASAHIRO KAKEHI, YOSHIHIRO USUDA,  
8                   YUKIKO TABIRA, and SHINICHI SUGIMOTO

9  
10                  Appeal 2008-005697  
11                  Application 10/798,339  
12                  Technology Center 1600

13                  Oral Hearing Held: March 19, 2009

14  
15                  Before DEMETRA J. MILLS, LORA M. GREEN, and FRANCISCO C.  
16                  PRATS, *Administrative Patent Judges.*

17                  APPEARANCES:

18                  ON BEHALF OF THE APPELLANT:

19  
20                  JAMES J. KELLY, ESQUIRE  
21                  Oblon, Spivak, McClelland, Maier  
22                  & Neustadt, P.C.  
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25  
26                  The above-entitled matter came on for hearing on Thursday,  
27                  March 19, 2009, commencing at 9:23 a.m., at The U.S. Patent and

1 Trademark Office, 600 Dulany Street, Alexandria, Virginia, before  
2 Laurel P. Platt, Registered Diplomate Reporter, Notary Public.

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## PROCEEDINGS

5 THE CLERK: This is Calendar Number 40, Appeal Number  
6 2008-5697. Mr. James Kelly, counsel for Appellant.

7 MR. KELLY: Good morning, Your Honors.

8 JUDGE MILLS: Good morning. Just to let you know, we are  
9 familiar with the issues in the case, and you have 20 minutes. You may  
10 begin when you're ready.

11 MR. KELLY: Okay. The Examiner has identified three references.  
12 Two, I think, stand out as the most important, the Thaller and the Cowman  
13 references.

14        Certainly the references describe the cloning of the two genes, the  
15 ushA and the aphA genes that we have recited in our claim. But it's our  
16 position that neither reference suggests using the sequences in such a way to  
17 decrease activity expression of these genes in an E. coli to improve the  
18 production of a nucleoside 5'-phosphate ester.

19 The one limitation at the end of Claim 9 that the Examiner has it  
20 seems to me ignored is the limitation, the feature that the 5'-nucleotidase  
21 activity in the periplasm of these cells is substantially eliminated. It's our  
22 argument that that observation by our Inventors was a surprising and  
23 unexpected result when they were doing the work.

Both references, really, when you look at them, lead away from actually doing what we are claiming because the references talk about

1 overproducing the amount of enzyme, and both references state that having  
2 increased expression of these enzymes having excessive level of the activity  
3 that those enzymes provide is not detrimental to the cell.

4 That's in the counterreference that is on page 285 in the first column  
5 in the second full paragraph.

6 JUDGE PRATS: Correct, but if I may?

7 MR. KELLY: Sure.

8 JUDGE PRATS: Basically the Examiner's rationale is if you  
9 eliminate the enzymes that cut up the desired product, you accumulate more  
10 product, correct?

11 MR. KELLY: Yes. That's a fair characterization of the Examiner's  
12 position.

13 JUDGE PRATS: Why isn't that a reasonable position?

14 MR. KELLY: There's no indication that doing that would actually  
15 lead to an enhanced production of the product. Obviously, cells are flexed  
16 biological systems, and these enzymes have the documented activities that  
17 you've just discussed, but there's no indication that actually doing it, when  
18 you do it in a cell, would lead to more of the product.

19 And there's certainly no indication in the references that by decreasing  
20 activity in these two genes, you could substantially eliminate the 5'-  
21 nucleotidase activity in these cells.

22 JUDGE PRATS: But from a logical standpoint, if you are trying to  
23 get something in a complex system, it seems to me there's an argument to be  
24 made, at least the Examiner's argument is that it makes sense you would  
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1 want to eliminate those known ways that the product is effectively degraded  
2 by the system. Do you see what I'm saying?

3 MR. KELLY: I think so.

4 JUDGE PRATS: I mean, that's the position that we are at.

5 MR. KELLY: Okay. Again, there's no indication or suggestion in the  
6 references that you can substantially eliminate all the activity. That's a  
7 feature of the claim that I don't think the Examiner has brought up in the  
8 final rejection or the reply brief.

9 JUDGE MILLS: That's not recognized in *E. coli* that enzyme activity  
10 occurs in the periplasmic space?

11 MR. KELLY: Even if that were true, there might be other enzymes  
12 that would be involved in providing this activity. There are obviously the  
13 two genes here. There's always a possibility that there are other genes that  
14 could provide similar activity. And so the observation that you can  
15 substantially eliminate this activity is still surprising.

16 JUDGE GREEN: So your argument, if I can paraphrase, seems to be  
17 that it was surprising that you only had to knock out these two genes to  
18 substantially eliminate the 5'-nucleotidase activities, that there weren't other  
19 genes also that had that activity?

20 MR. KELLY: That's certainly one aspect of it.

21 JUDGE GREEN: There was nothing in the art that would lead you to  
22 believe that just knocking out those two genes would give you this result.

23 MR. KELLY: Certainly nothing that I'm aware of.

24 JUDGE GREEN: I mean the prior art of record.

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1           MR. KELLY: That's right. Yes. To answer -- someone asked if the  
2 Thaller reference recognized periplasmic enzyme activity, and that is true.  
3 That's on column 2 at page 197 of the reference.

4           JUDGE MILLS: The second rejection, adding Matsui, did you have  
5 any comments about it?

6           MR. KELLY: No, in the sense this rejection was really more for  
7 dependent Claim 12, that the operon recited in Claim 12 was discussed in  
8 the Matsui reference, but the Matsui reference doesn't make up for any of the  
9 deficiencies of Thaller. So Claim 9 was allowed, certainly the dependent  
10 claims that followed.

11          JUDGE MILLS: Thank you very much.

12          (Whereupon, the proceedings at 9:30 a.m. were concluded.)

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